CHAPTER 2

System Characteristics

Summary

Exhibit 2-1 summarizes the key findings in this chapter, comparing system and use characteristics data in this report with the 2000 values shown in the 2002 Conditions and Performance (C&P) Report. Some of the 2000 values have subsequently been revised, which is reflected in the second column as appropriate. The third column contains comparable values based on 2002 data.

Exhibit 2-1 *Comparison of System and Use Characteristics with Those in the 2002 C&P Report*

Statistic	2000 Data: 2002 C&P Report	2000 Data: Revised as of 12/23/04	2002 Data
Percentage of Total Highway Miles Owned by Local Governments	77.4%		77.5%
Percentage of Total Highway Miles Owned by State Governments	19.6%		19.5%
Percentage of Total Highway Miles Owned by the Federal Government	3.0%		3.0%
Local Transit Operators in Urbanized Areas	614		610
Rural and Specialized Transit Service Providers	4,888		6,051
Total Rural Highway Miles (Population under 5,000)	3.09 million		3.08 million
Total Urban Highway Miles (Population equal to or above 5,000)	0.86 million		.90 million
Total Highway Miles	3.95 million		3.98 million
Transit Route Miles (Rail)	9,221	9,222	9,484
Transit Route Miles (Nonrail)	163,303	196,858	225,820
Total Transit Route Miles	172,524	206,080	235,304
Total Rural Highway Lane Miles (Population under 5,000)	6.32 million		6.31 million
Total Urban Highway Lane Miles (Population equal to or above 5,000)	1.93 million		2.02 million
Total Highway Lane Miles	8.25 million		8.33 million
Urban Transit Capacity-Equivalent Miles (Rail)	1.87 billion	2.08 billion	2.18 billion
Urban Transit Capacity-Equivalent Miles (Nonrail)	1.90 billion	1.9 1billion	2.03 billion
Urban Transit Capacity-Equivalent Miles (Total)	3.77 billion	3.99 billion	4.21 billion
Vehicle Miles Traveled on Rural Highways (Population under 5,000)	1.09 trillion	1.09 trillion	1.13 trillion
Vehicle Miles Traveled on Urban Highways (Population equal to or above 5,000)	1.67 trillion	1.67 trillion	1.74 trillion
Vehicle Miles Traveled on All Highways	2.68 trillion	2.76 trillion	2.87 trillion
Transit Passenger Miles (Rail)	24.60 billion		24.6 billion
Transit Passenger Miles (Nonrail)	20.50 billion		21.3 billion
Transit Passenger Miles (Total)	45.10 billion		45.9 billion

There were almost 3.98 million miles of public roads in the United States in 2002, of which nearly 3.08 million miles were in rural areas (rural areas are defined as locations with less than 5,000 residents, and urban communities are defined as those areas with 5,000 or more people). Local governments controlled over 77 percent of total highway miles in 2002; States controlled nearly 20 percent; and the Federal Government owned about 3 percent. Hence, the Nation's highway system is overwhelmingly *rural* and *local.*

Q. Is the increase in urban lane mileage entirely due to new construction?

A. No. While some of the additional lane miles are attributable to new road construction or the widening of existing roads, a significant percentage is attributable to functional reclassification due to population growth and the adjustment of urban boundaries due to the results of the 2000 census.

As urban boundaries have expanded to encompass areas formerly classified as rural, the mileage within those boundaries has been reclassified as small urban mileage. The same situation has occurred as urbanized area boundaries have expanded to subsume areas that were formerly classified as rural or small urban.

Since the 2000 census, States have been gradually updating their reported mileage data in the Highway Performance Monitoring System (HPMS) to reflect these new urban boundaries. This process is likely to continue through 2006 and therefore a continuing trend of increases in small urban and urbanized mileage coupled with a decline in rural mileage is very likely to continue in the next edition of the C&P report.

Q. Are the 2002 HPMS data cited in this report fully consistent with those reported in the *Highway Statistics 2002* publication?

A. No. The data reflected in this report represents the latest available data as of the date the chapters were written. Certain States had revised their data following the publication of the *Highway Statistics 2002*. The HPMS database is subject to further change if other States identify a need to revise their data. Such changes will be reflected in the next edition of the C&P report. Additional information on HPMS is available on the following website: http://www.fhwa.dot.gov/policy/ohpi/hpms/index.htm

Total highway lane mileage was almost 8.33 million in 2002. Lane miles have increased at an average annual rate of about 0.2 percent since 1993, mostly in urban areas. Urban lane mileage grew to more than 2.0 million by 2002, while rural lane mileage decreased slightly, but was still approximately 6.3 million.

The number of vehicle miles traveled (VMT) between 1993 and 2002 grew by an average of 2.5 percent annually. About 1.1 trillion VMT were on rural highways, and over 1.7 trillion were on urban roads. Traffic has increased in metropolitan areas, but it has also grown in rural areas where there is increased truck traffic and visits by tourists to recreation centers.

There are 591,707 bridges in excess of 6 meters (20 feet) in total length carrying public roads in the United States. These structures carry nearly 4 billion vehicles daily and, with over 300 million square meters of total deck area, represent a sizeable investment. Information on the composition and conditions of these structures is maintained by the Federal Highway Administration (FHWA) in the National Bridge Inventory (NBI) database.

The majority of the bridges are located in rural areas (77 percent); however, the majority of traffic (73 percent of the total daily traffic volume) is carried by the urban structures. In terms of the total number of structures, 58 percent of the bridges carry local roadways, either in a rural or urban setting. Considering the higher functional classifications, 22 percent of the structures carry principal arterials, including rural and urban interstates and other expressways. Bridges carrying local roadways, however, service less than 5 percent of the total daily traffic volume; bridges carrying principal arterials service 78 percent of the daily traffic. Thus, the bridge inventory, like the road network, is predominantly rural and local when considering numbers of bridges; however, when traffic impact is considered, the importance of bridges in urban areas and bridges carrying higher functional classifications cannot be understated.

Responsibility for and ownership of bridges is split primarily between State agencies (47 percent) and local governments (51 percent). Federal agencies own less than 10,000 bridges nationwide (2 percent), and there are a small number of privately owned or railroad-owned bridges carrying public roadways. State agencies tend to own bridges located on higher functional classifications, such as principal arterials; the majority of local government bridges are located on local and collector roadways.

Transit system coverage, capacity, and use in the United States continued to increase between 2000 and 2002. In 2002, there were 610 transit operators serving urbanized areas compared with 614 operators in 2000. In 2000, the most recent year for which information is available, there were 1,215 transit operators serving rural areas and in 2002, there were an estimated 4,836 providers of special service transit services to the elderly and disabled in both urban and rural areas. A transit provider may be an independent agency, a unit of a regional transportation agency or a unit of a state, county, or city government.

In 2002, transit agencies in urban areas operated 114,564 vehicles, of which 87,295 were in areas of more than 1 million people. Rail systems had 10,722 miles of rail track and 2,862 rail stations, compared with 10,572 miles of track and 2,825 stations in 2000. The number of bus and rail maintenance facilities in urban areas increased from 759 in 2000 to 769 in 2002. The most recent survey of rural transit operators, undertaken in 2000, estimated that 19,185 transit vehicles operated in rural areas; the Federal Transit Administration (FTA) has estimated that in 2002 there were 37,720 special service vehicles operated for the elderly and disabled, of which 16,219 had been funded by the FTA.

In 2002, transit systems operated 235,304 directional route miles, of which 225,820 were nonrail and 9,484 were rail route miles. Total route miles increased by 14.2 percent in total between 2000 and 2002. Nonrail route miles increased by 14.7 percent, and rail route miles increased by 2.8 percent.

Transit system capacity as measured by capacity-equivalent vehicle revenue miles (VRM) increased by 5.6 percent in total between 2000 and 2002. Capacity-equivalent VRM measure the distance traveled by a transit vehicle in revenue service, adjusted by the passenger-carrying capacity of each transit vehicle type, with the passenger-carrying capacity of a motor bus representing the baseline. The capacity of rail modes increased by 5.2 percent between 2000 and 2002 in total, and the capacity of nonrail modes by 7.8 percent. In 2002, slightly more than half of capacity-equivalent VRM were provided by rail modes, and slightly less than half were provided by nonrail modes. Capacity-equivalent VRM provided by light rail systems grew rapidly between 2000 and 2002, reflecting New Starts openings and extensions, increasing in total by 16.2 percent.

Transit passenger miles increased by 1.9 percent in total between 2000 and 2002, from 45.1 billion to 45.9 billion. Passenger miles traveled on nonrail modes increased from 20.5 billion in 2000 to 21.3 billion in 2002, or by total of 4.0 percent. Passenger miles on rail transit modes were unchanged at 24.6 billion. The lack of growth in aggregate passenger miles traveled on rail transit modes reflects a decrease in heavy rail ridership, particularly in the New York City and surrounding areas, most likely resulting from the terrorist attacks on September 11, 2001.

Vehicle occupancy of transit vehicles, adjusted to the capacity of a bus, fluctuated between 10.6 persons and 11.3 persons per vehicle between 1993 and 2002. In 2002, vehicle occupancy was 10.9 persons compared with 11.3 persons in 2000.

Highway System Characteristics

Highways are typically classified by either *ownership* or *purpose,* a distinction used in previous editions of the C&P report. Ownership can be determined by which jurisdiction has primary responsibility over a particular portion of the infrastructure, while purpose and level of service are identified by the item's function. This section presents highway miles by jurisdiction as well as system and use characteristics by functional classification.

Highways by Ownership

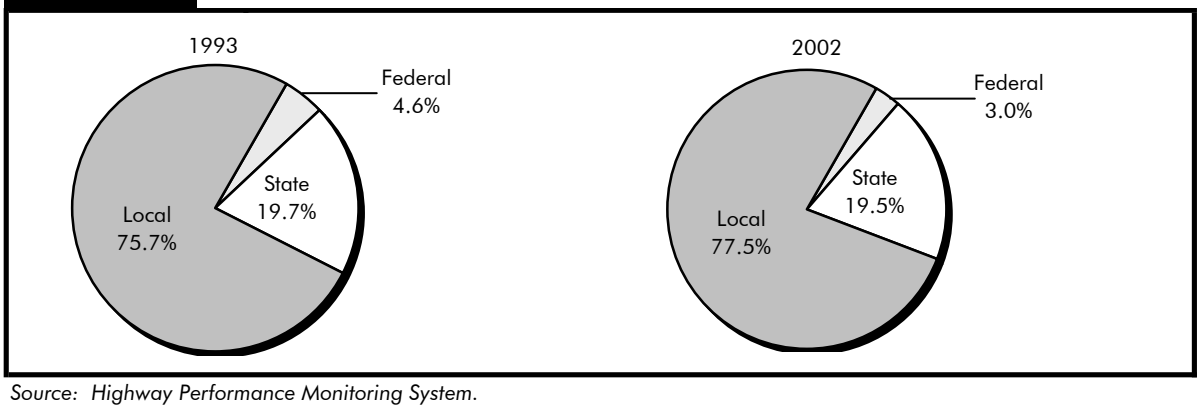
Ownership is largely split among the Federal, State, and local governments. Roads owned by these governments are considered "public."

States own almost 20 percent of the Nation's public road mileage. The Federal Government has control over about 3 percent, primarily in National parks and forests, on Indian reservations, and on military bases.

Over 77 percent of American roads are locally owned, although some intergovernmental agreements may authorize States to construct and maintain locally owned highways. About 1,050 counties in the United States have at least 1 mile of public roads owned by the Federal Government. Most of these counties are in the Western United States. Apache County, Arizona, has the highest percentage of Federal ownership (80 percent), followed by California's Siskiyou County and Montana's Lincoln County (70 percent each).

As *Exhibit 2-2* demonstrates, the share of locally owned roads has grown over the past decade. The share of local public road mileage increased from 75.7 to 77.5 percent between 1993 and 2002. During that same period, the share of State-owned public road mileage declined slightly, from 19.7 to 19.5 percent.

Exhibit 2-2 *Highway Mileage by Owner, 1993 and 2002*



Source: Highway Performance Monitoring System.

Q. Why has Federally owned mileage increased substantially in urban areas since the last report?

A. Federally owned mileage in urban areas nearly doubled between 2000 and 2002. This is a result of an emphasis that FHWA has placed on complete reporting of Federally owned mileage by agencies that are not primarily transportation oriented. In every case of a large mileage increase within a State, the data change results from more accurate reporting of Department of Defense mileage on military bases within urban areas, rather than from an increase in the mileage or roadways under Federal ownership.

The dramatic decline in Federally owned public road mileage noted in the previous C&P report has leveled off, and the mileage is actually slightly higher for 2002 than it was for 2000. Yet, between 1993 and 2002 the share of Federal road mileage declined from 4.6 to 3.0 percent. Federal road mileage reached a peak in 1984, when 7 percent of all public roads were owned by the Federal Government, and had steadily decreased since then, until reaching the current 3 percent in 1999. As was noted in the previous C&P report, much of the change occurred as a result of Federal land management agencies reclassifying some of their mileage from public to nonpublic status.

A continuing trend is the increase in urban highway mileage. This is depicted in *Exhibit 2-3,* which shows that mileage in small urban areas grew by an average annual rate of 1.3 percent between 1993 and 2002. In larger urbanized areas with at least 50,000 residents, the annual growth rate was slightly smaller.

Exhibit 2-3 *Highway Mileage by Owner and by Size of Area, 1993–2002*

	1993	1995	1997	2000	2002	Annual Rate of Change 2002/1993
Rural Areas (under 5,000 in population)						
Federal	179,603	170,574	167,368	116,707	117,775	-4.6%
State	660,241	660,666	661,473	663,763	664,814	0.1%
Local	2,257,002	2,259,064	2,280,042	2,308,842	2,295,006	0.2%
Subtotal Rural	**3,096,846**	**3,090,304**	**3,108,883**	**3,089,312**	**3,077,595**	-0.1%
Small Urban Areas (5,000–49,999 in population)						
Federal	355	494	482	458	980	11.9%
State	27,160	27,442	27,455	27,596	27,639	0.2%
Local	136,538	139,825	143,848	148,094	154,869	1.4%
Subtotal Small Urban Areas	**164,053**	**167,761**	**171,785**	**176,148**	**183,488**	1.3%
Urbanized Areas (50,000 or more in population)						
Federal	943	982	980	1,026	1,840	7.7%
State	80,747	83,016	83,428	83,944	84,135	0.5%
Local	566,125	574,319	587,426	597,837	632,025	1.2%
Subtotal Urbanized Areas	**647,815**	**658,317**	**671,834**	**682,807**	**718,000**	1.1%
Total Highway Miles						
Federal	180,901	172,050	168,830	118,191	120,595	-4.4%
State	768,148	771,124	772,356	775,303	776,588	0.1%
Local	2,959,665	2,973,208	3,011,316	3,054,773	3,081,900	0.5%
Total	**3,908,714**	**3,916,382**	**3,952,502**	**3,948,267**	**3,979,083**	0.2%
Percent of Total Highway Miles						
Federal	4.6%	4.4%	4.3%	3.0%	3.0%	
State	19.7%	19.7%	19.5%	19.6%	19.5%	
Local	75.7%	75.9%	76.2%	77.4%	77.5%	
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	

Source: Highway Performance Monitoring System.

Q. Does the decrease in rural mileage signify roadway abandonment?

A. Public road mileage rarely is abandoned. Rural mileage near metropolitan areas is routinely functionally reclassified as urban mileage as urban boundaries expand, resulting in a decrease in the rural mileage without an abandonment of any roadway.

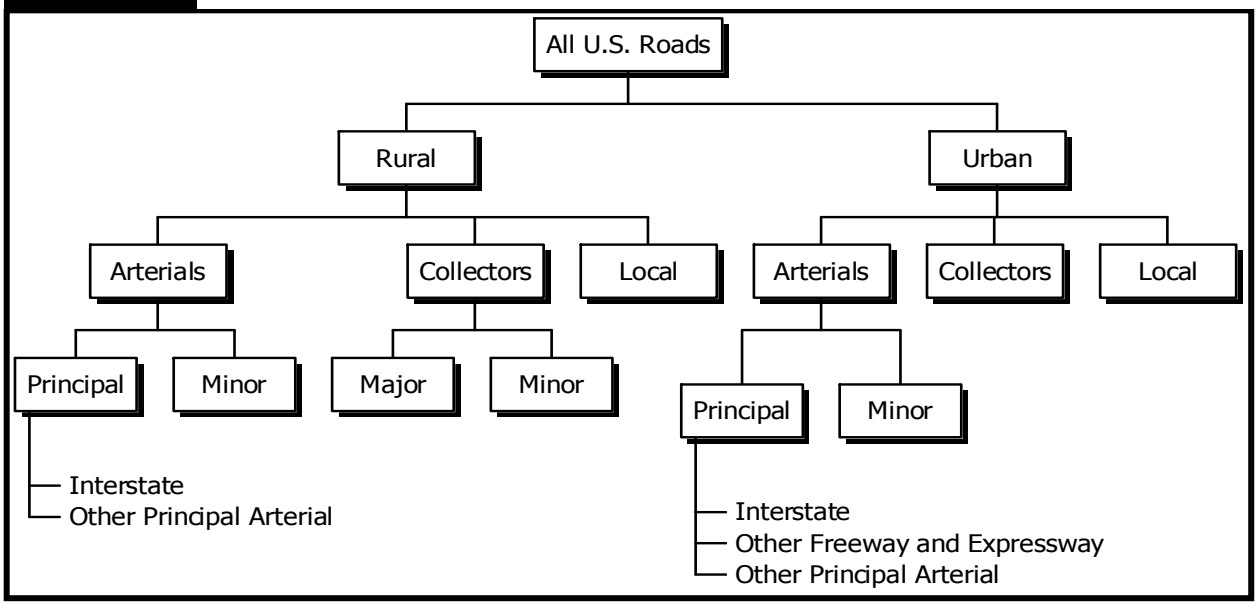
Highways by Purpose

Another way to categorize roads is by purpose, which is commonly called functional classification. The Highway Functional Classification System (HFCS) is the basic organization used for most of this report. *Exhibit 2-4* shows the hierarchy of the HFCS pictorially.

Review of Functional Classification Concepts

The overarching principle of functional classification is interconnectedness or system. That is, each segment of road other than the lowest classification (local) should connect at both ends only to another segment functionally classified at an equal or higher level. Exceptions to this principle typically occur because of unusual geographic or traffic conditions (e.g., connections to international borders, coastal cities, waterports, and airports).

Exhibit 2-4 *Highway Functional Classification Hierarchy*



Roadways serve two important functions: land access and mobility. The better any individual segment is at serving one of these functions, the worse it is at serving the other. Thus, routes on the Interstate Highway System will allow a driver to travel long distances in a relatively short time, but will not allow the driver to enter each farm field along the way. Contrarily, a subdivision street will allow a driver access to any address along its length, but will not allow the driver to travel at a high rate of speed and will frequently be interrupted by intersections, often controlled by stop signs.

Arterials provide the highest level of mobility, at the highest speed, for long and uninterrupted travel. Arterials typically have higher design standards than other roads. They often include multiple lanes and have some degree of access control.

The rural arterial network provides interstate and intercounty service so that all developed areas are within a reasonable distance of an arterial highway. This network is broken down into principal and minor routes, of which principal roads are more significant. Virtually all urbanized areas with more than 50,000 people, and most urban areas with more than 25,000 people, are connected by rural principal arterial highways. **The rural principal arterial network is divided into two subgroups, Interstate highways and other principal arterials.**

Similarly, in urban areas the arterial system is divided into principal and minor arterials. **The urban principal arterial system is the most important group; it includes (in descending order of importance) Interstate highways, other freeways and expressways, and other principal arterials.** The urban principal arterial system serves major metropolitan centers, corridors with the highest traffic volume, and those with the longest trip lengths. It carries most trips entering and leaving metropolitan areas and provides continuity for rural arterials that cross urban boundaries. Urban minor arterial routes provide service for trips of moderate length at a lower level of mobility. They connect with the urban principal arterial system and other minor arterial routes.

Collectors provide a lower degree of mobility than arterials. They are designed for travel at lower speeds and for shorter distances. Generally, collectors are two-lane roads that collect travel from local roads and distribute it to the arterial system.

The rural collector system is stratified into two subsystems: major and minor collectors. Major collectors serve larger towns not accessed by higher order roads, and important industrial or agricultural centers that generate significant traffic but are not served by arterials. Rural minor collectors are typically spaced at intervals consistent with population density to collect traffic from local roads and to ensure that a collector road serves all small urban areas.

In urban areas, the collector system provides traffic circulation within residential neighborhoods and commercial and industrial areas. Unlike arterials, collector roads may penetrate residential communities, distributing traffic from the arterials to the ultimate destination for many motorists. Urban collectors also channel traffic from local streets onto the arterial system. Unlike rural collectors, the urban collector system has no subclassification.

Local roads represent the largest element in the American public road network in terms of mileage. For rural and urban areas, all public road mileage below the collector system is considered local. Local roads provide basic access between residential and commercial properties, connecting with higher order highways.

Functional Classification Data

In 2002, the rural principal arterial system accounted for about 3.3 percent of total miles in the United States, but carried 47.6 percent of rural travel, or 18.8 percent of total travel, in the United States. Rural minor arterials represented 3.5 percent of total U.S. miles while carrying 15.6 percent of rural travel, or 6.2 percent of total travel, in the United States.

In 2002, the urban principal arterial system accounted for 1.8 percent of total miles in the United States. However, this network carried 58.2 percent of urban travel, or 35.4 percent of total travel, in the United

States. The urban minor arterial network represented 2.3 percent of total U.S. mileage. This system carried 19.6 percent of urban travel, or 11.9 percent of total travel, in the United States.

Rural major collectors accounted for 10.8 percent of total U.S. miles in 2002. They carried 18.9 percent of rural travel, or 7.5 percent of total travel, in the United States. The rural minor collector system accounted for 6.8 percent of total U.S. mileage in 2002. These roads carried 5.5 percent of rural travel, or 2.2 percent of total travel, in the United States.

In 2002, the urban collector network accounted for 2.2 percent of U.S. road mileage. It carried 8.2 percent of urban travel, or 4.9 percent of total travel, in the United States.

In 2002, rural local roads represented 52.9 percent of total U.S. road mileage. Local roads carried only 12.3 percent of rural travel, or 4.9 percent of total travel, in the United States. Urban local roads accounted for 16.2 percent of total U.S. road mileage and 13.9 percent of urban travel, or 8.4 percent of total travel, in the United States.

Exhibit 2-5 summarizes the *percentage* of highway miles, lane miles, and VMT stratified by functional system. The share of mileage on rural highways has decreased slightly since 2000, dropping from 78.2 to 77.3 percent, a trend shown earlier in Exhibit 2-3. The share of lane miles on rural highways also decreased slightly, from 76.6 to 75.7 percent; however, the share of VMT in rural areas remained constant at 39.4 percent from 2000 to 2002.

Exhibit 2-5 *Percentage of Highway Miles, Lane Miles, and VMT by Functional System and by Size of Area, 2002*

Functional System	Miles	Lane Miles	VMT
Rural Areas (under 5,000 in population)			
Interstate	0.8%	1.6%	9.8%
Other Principal Arterial	2.5%	3.1%	9.0%
Minor Arterial	3.5%	3.5%	6.2%
Major Collector	10.8%	10.4%	7.5%
Minor Collector	6.8%	6.5%	2.2%
Local	52.9%	50.6%	4.9%
Subtotal Rural	**77.3%**	**75.7%**	**39.4%**
Small Urban Areas (5,000–49,999 in population)			
Interstate	0.0%	0.1%	0.8%
Other Freeway and Expressway	0.0%	0.1%	0.4%
Other Principal Arterial	0.3%	0.5%	2.1%
Minor Arterial	0.5%	0.5%	1.6%
Collector	0.5%	0.5%	0.7%
Local	3.2%	3.0%	1.2%
Subtotal Small Urban Area	**4.6%**	**4.7%**	**6.7%**
Urbanized Areas (50,000 or more in population)			
Interstate	0.3%	0.8%	13.6%
Other Freeway and Expressway	0.2%	0.5%	6.3%
Other Principal Arterial	1.0%	1.8%	12.2%
Minor Arterial	1.8%	2.3%	10.3%
Collector	1.7%	1.8%	4.2%
Local	13.0%	12.4%	7.2%
Subtotal Urbanized Areas	**18.0%**	**19.6%**	**53.9%**
Total	**100.0%**	**100.0%**	**100.0%**

Source: Highway Performance Monitoring System.

The share of urban mileage increased slightly between 2000 and 2002, from 21.8 to 22.6 percent. Urban lane mileage also increased, from 23.4 to 24.3 percent. Since the percentage of rural travel remained constant, that of urban travel did perforce, remaining at 60.6 percent from 2000 to 2002.

Exhibit 2-6 shows the total public road route mileage in the United States. In 2002, there were nearly 4 million route miles in the United States. About 77.3 percent of this mileage, or just under 3.1 million route miles, was in rural areas. The remaining 22.7 percent of route mileage, or 901,913 miles, was in urban communities. Overall route mileage increased by an average rate of about 0.2 percent between 1993 and 2002. On an average annual basis, mileage decreased by 0.1 percent in rural America and increased by 1.2 percent in metropolitan communities from 1993 to 2002.

Exhibit 2-6 *Highway Route Miles by Functional System and by Size of Area, 1993–2002*

Functional System	1993	1995	1997	2000	2002	Annual Rate of Change 2002/1993
Rural Areas (under 5,000 in population)						
Interstate	32,795	32,703	32,919	33,152	33,107	0.1%
Other Principal Arterial	97,127	98,039	98,358	99,023	98,945	0.2%
Minor Arterial	137,755	137,440	137,791	137,863	137,855	0.0%
Major Collector	432,993	432,492	433,500	433,926	431,754	0.0%
Minor Collector	282,853	274,750	273,043	272,477	271,371	-0.5%
Local	2,123,895	2,125,054	2,141,111	2,115,293	2,106,725	-0.1%
Subtotal Rural	**3,107,418**	**3,100,478**	**3,116,722**	**3,091,733**	**3,079,757**	**-0.1%**
Small Urban Areas (5,000–49,999 in population)						
Interstate	1,694	1,731	1,744	1,794	1,808	0.7%
Other Freeway and Expressway	1,261	1,282	1,253	1,219	1,227	-0.3%
Other Principal Arterial	12,570	12,432	12,477	12,474	12,590	0.0%
Minor Arterial	19,200	19,538	19,635	19,800	19,926	0.4%
Collector	20,973	21,301	21,338	21,535	21,813	0.4%
Local	108,440	111,566	115,420	119,342	126,140	1.7%
Subtotal Small Urban Areas	**164,138**	**167,850**	**171,867**	**176,163**	**183,503**	**1.2%**
Urbanized Areas (50,000 or more in population)						
Interstate	11,313	11,569	11,651	11,729	11,832	0.5%
Other Freeway and Expressway	7,656	7,740	7,864	7,977	8,150	0.7%
Other Principal Arterial	40,434	40,622	40,993	41,084	41,090	0.2%
Minor Arterial	68,102	69,475	70,050	70,502	70,996	0.5%
Collector	64,407	66,623	67,312	67,263	68,033	0.6%
Local	456,134	462,537	474,044	484,650	518,309	1.4%
Subtotal Urbanized Areas	**648,046**	**658,566**	**671,914**	**683,205**	**718,410**	**1.2%**
Total Highway Route Miles	**3,919,602**	**3,926,894**	**3,960,503**	**3,951,101**	**3,981,670**	**0.2%**

Source: Highway Performance Monitoring System.

Exhibit 2-7 shows the number of highway lane miles by functional system. In 2002, there were 8.3 million lane miles in the United States. Lane miles have grown at an average annual rate of about 0.2 percent since 1993, mostly in urban areas (lane mileage in rural areas having decreased overall by 0.1 percent per year during the same time period). In small urban areas (those with between 5,000 and 49,999 residents) and in urbanized areas (those with 50,000 or more residents), lane mileage grew at approximately equal rates, which was about 1.3 percent annually between 1993 and 2002.

Exhibit 2-7 *Highway Lane Miles by Functional System and by Size of Area, 1993–2002*

Functional System	1993	1995	1997	2000	2002	Annual Rate of Change 2002/1993
Rural Areas (under 5,000 in population)						
Interstate	132,559	132,346	133,573	135,000	135,032	0.2%
Other Principal Arterial	240,714	245,164	248,921	253,586	256,458	0.7%
Minor Arterial	286,860	288,222	288,872	287,750	288,391	0.1%
Major Collector	873,988	872,767	875,393	872,672	868,977	-0.1%
Minor Collector	565,705	549,500	546,085	544,954	542,739	-0.5%
Local	4,247,239	4,250,107	4,282,222	4,230,588	4,213,448	-0.1%
Subtotal Rural	**6,347,065**	**6,338,106**	**6,375,066**	**6,324,550**	**6,305,044**	**-0.1%**
Small Urban Areas (5,000–49,999 in population)						
Interstate	7,141	7,269	7,365	7,626	7,776	1.0%
Other Freeway and Expressway	4,741	4,828	4,747	4,627	4,685	-0.1%
Other Principal Arterial	36,768	37,135	37,618	37,806	38,275	0.4%
Minor Arterial	42,937	44,390	44,982	45,212	45,682	0.7%
Collector	43,491	43,755	44,216	44,525	45,095	0.4%
Local	216,881	223,132	230,839	238,684	252,279	1.7%
Subtotal Small Urban Areas	**351,959**	**360,509**	**369,767**	**378,482**	**393,793**	**1.3%**
Urbanized Areas (50,000 or more in population)						
Interstate	62,754	64,865	65,603	67,020	68,088	0.9%
Other Freeway and Expressway	34,864	35,705	36,655	37,428	38,782	1.2%
Other Principal Arterial	130,769	143,572	146,585	149,224	150,250	1.6%
Minor Arterial	176,130	183,595	185,273	184,199	187,512	0.7%
Collector	136,305	143,517	145,927	145,313	147,020	0.8%
Local	912,267	925,073	948,087	969,300	1,036,619	1.4%
Subtotal Urbanized Areas	**1,453,089**	**1,496,327**	**1,528,130**	**1,552,484**	**1,628,271**	**1.3%**
Total Highway Lane Miles	**8,152,113**	**8,194,942**	**8,272,963**	**8,255,516**	**8,327,108**	**0.2%**

Source: Highway Performance Monitoring System.

Highway Travel

This section describes highway infrastructure use, which is typically defined by VMT. During the 1990s, Americans traveled at record levels, a phenomenon prompted by the booming economy, population growth, and other socioeconomic factors. As *Exhibit 2-8* shows, VMT grew by an average annual rate of 2.5 percent between 1993 and 2002. By the end of that period, Americans were traveling almost 2.9 trillion vehicle miles annually. More than 1.13 trillion vehicle miles were on rural highways, and about 1.74 trillion vehicle miles were on urban roads.

While highway mileage is mostly rural, a majority of highway travel (over 60 percent) occurred in urban areas in 2002. Since 1993, however, rural travel has grown at a slightly faster average annual rate (2.8 percent) than overall urban travel (2.4 percent).

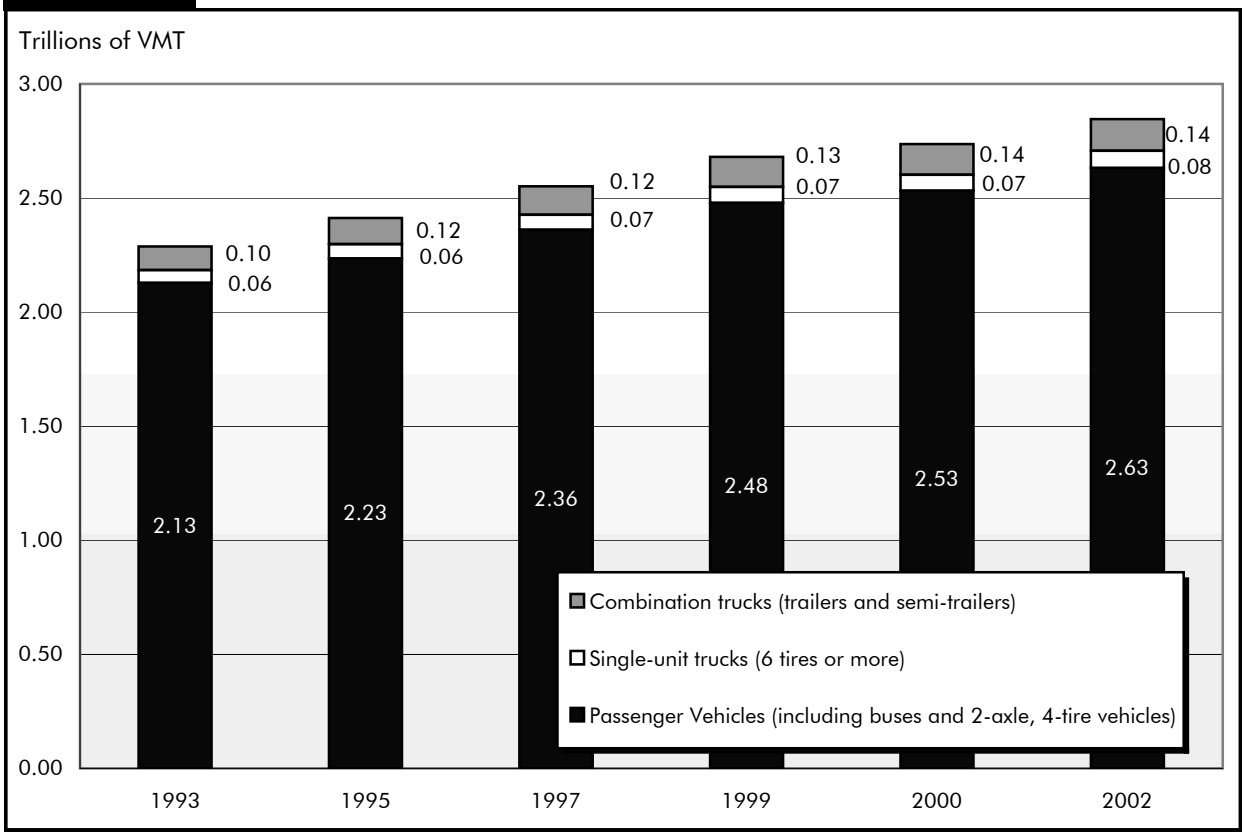
Exhibit 2-8 *Vehicle Miles Traveled (VMT) and Passenger Miles Traveled (PMT), 1993–2002*

(Millions of Miles) Functional System	1993	1995	1997	2000	2002	Annual Rate of Change 2002/1993
Rural (under 5,000 in population)						
Interstate	209,470	224,705	241,451	269,533	281,461	3.3%
Other Principal Arterial	203,149	215,988	229,133	249,177	258,009	2.7%
Minor Arterial	148,023	156,253	164,129	172,772	177,139	2.0%
Major Collector	185,611	194,420	202,588	210,595	214,463	1.6%
Minor Collector	48,579	50,386	52,809	58,183	62,144	2.8%
Local	102,948	105,819	113,248	127,560	139,892	3.5%
Subtotal Rural	**897,779**	**947,571**	**1,003,358**	**1,087,820**	**1,133,107**	**2.6%**
Small Urban Area (5,000–49,999 in population)						
Interstate	16,297	17,310	18,393	21,059	22,578	3.7%
Other Freeway and Expressway	8,353	8,854	9,251	9,892	10,442	2.5%
Other Principal Arterial	51,088	53,202	55,359	58,170	59,490	1.7%
Minor Arterial	36,464	39,270	40,845	43,035	44,566	2.3%
Collector	17,282	18,710	19,749	20,412	21,492	2.5%
Local	25,919	27,970	30,368	33,277	34,241	3.1%
Subtotal Small Urban Area	**155,403**	**165,317**	**173,965**	**185,845**	**192,808**	**2.4%**
Urbanized Areas (50,000 or more in population)						
Interstate	303,324	327,329	346,376	375,088	389,903	2.8%
Other Freeway and Expressway	132,344	141,980	151,231	167,833	180,199	3.5%
Other Principal Arterial	298,558	313,676	332,448	342,249	351,436	1.8%
Minor Arterial	236,815	251,470	263,296	283,078	297,393	2.6%
Collector	96,102	104,453	111,874	116,277	122,129	2.7%
Local	175,917	179,392	176,268	202,220	207,480	1.9%
Subtotal Urbanized Areas	**1,243,060**	**1,318,300**	**1,381,495**	**1,490,819**	**1,548,540**	**2.5%**
Total VMT	**2,296,243**	**2,431,188**	**2,558,818**	**2,764,484**	**2,874,455**	**2.5%**
Total PMT	**3,772,492**	**3,868,070**	**4,089,366**	**4,390,076**	**4,733,824**	**2.6%**

Source: Highway Performance Monitoring System and National Household Travel Survey.

Exhibits 2-9 and *2-10* expand on the information in Exhibit 2-8. They depict highway travel by functional classification and vehicle type. Three types of vehicles are identified: passenger vehicles (PV), including buses and 2-axle, 4-tire models; single-unit (SU) trucks having 6 or more tires; and combination (combo) trucks, including trailers and semi-trailers. The totals in Exhibit 2-9 include all vehicles, whereas those in Exhibit 2-10 exclude motorcycles.

Exhibit 2-9 *Highway Travel by Vehicle Type, 1993–2002*



Source: Highway Statistics, Summary to 1995, Table VM-201; Highway Statistics, Table VM-1, various years.

Exhibit 2-10 shows that, in rural areas, travel grew the fastest on the interstate among all vehicle types and, in urban areas, travel grew the fastest regardless of system among single-unit and combination trucks. Between 1993 and 2002, for example, combination truck traffic grew by 3.7 percent per year on rural interstates and 4.4 percent per year on urban interstates. Overall, passenger vehicle travel grew by an average annual rate of 2.4 percent between 1993 and 2002. Single-unit and combination truck travel grew by 3.3 percent per year.

Intelligent Transportation Systems (ITS)

All of the previous exhibits represent a traditional look at the highway system—its mileage, ownership, functional classification, and use. This section looks at the extent of ITS on the highway network. ITS uses advanced technology to improve highway safety and efficiency. The deployment of ITS for operations and freight management are discussed more fully in Chapters 12 and 13.

Exhibit 2-10 *Highway Travel by System and Vehicle Type, 1993–2002*

Functional System / Vehicle Type	(Millions of VMT) 1993	1995	1997	2000	2002	Annual Rate of Change 2002/1993
Rural Interstate						
PV	168,282	178,973	189,869	214,532	224,375	3.2%
SU	5,982	6,708	7,671	8,236	8,745	4.3%
Combo	32,827	36,643	41,665	44,248	45,633	3.7%
Other Arterial						
PV	312,924	330,029	351,313	377,270	389,758	2.5%
SU	11,375	12,980	13,688	13,644	14,606	2.8%
Combo	23,725	24,076	25,505	28,005	27,818	1.8%
Other Rural						
PV	302,986	314,158	341,323	366,433	383,724	2.7%
SU	12,510	12,948	13,698	13,722	14,963	2.0%
Combo	11,941	12,676	12,471	12,555	14,090	1.9%
Total Rural						
PV	784,192	823,160	882,505	958,235	997,857	2.7%
SU	29,867	32,636	35,057	35,602	38,314	2.8%
Combo	68,493	73,395	79,641	84,808	87,541	2.8%
Urban Interstate						
PV	293,045	314,422	331,343	359,592	373,957	2.7%
SU	6,513	7,148	7,906	8,716	9,106	3.8%
Combo	16,183	18,491	20,643	23,465	23,887	4.4%
Other Urban						
PV	1,049,710	1,097,161	1,146,289	1,213,109	1,259,859	2.0%
SU	20,403	22,921	23,930	26,182	28,467	3.8%
Combo	18,450	23,565	24,300	26,747	27,215	4.4%
Total Urban						
PV	1,342,755	1,411,583	1,477,632	1,572,701	1,633,816	2.2%
SU	26,916	30,069	31,836	34,898	37,573	3.8%
Combo	34,633	42,056	44,943	50,212	51,102	4.4%
Total						
PV	2,126,947	2,234,743	2,360,137	2,530,936	2,631,673	2.4%
SU	56,783	62,705	66,893	70,500	75,887	3.3%
Combo	103,126	115,451	124,584	135,020	138,643	3.3%

PV=Passenger Vehicles (including buses and 2-axle, 4-tire vehicles)

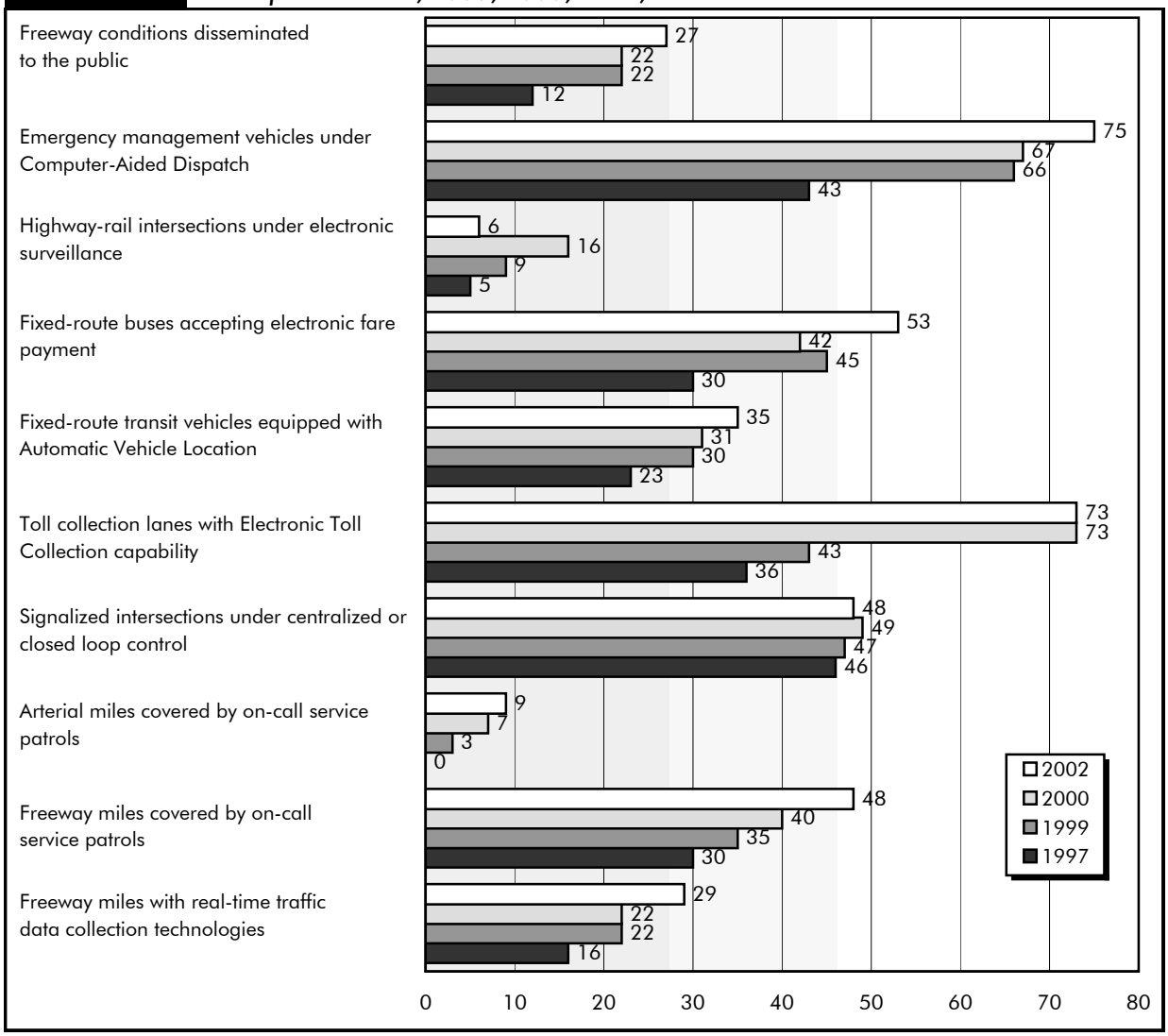
SU=Single-Unit Trucks (6 tires or more)

Combo=Combination Trucks (trailers and semi-trailers).

Source: Highway Statistics, Summary to 1995, Table VM-201; Highway Statistics, Table VM-1, various years.

Exhibit 2-11 describes the deployment of ITS devices in 78 metropolitan regions, based on a survey by the FHWA Intelligent Transportation Systems Joint Program Office. More regions are using computer-aided emergency management vehicles (75 percent) followed by electronic tolling (73 percent in 2002). While Intelligent Transportation Systems continue to grow in acceptance and use, the number of arterial miles covered by on-call service patrols remains low at 9 percent in 2002.

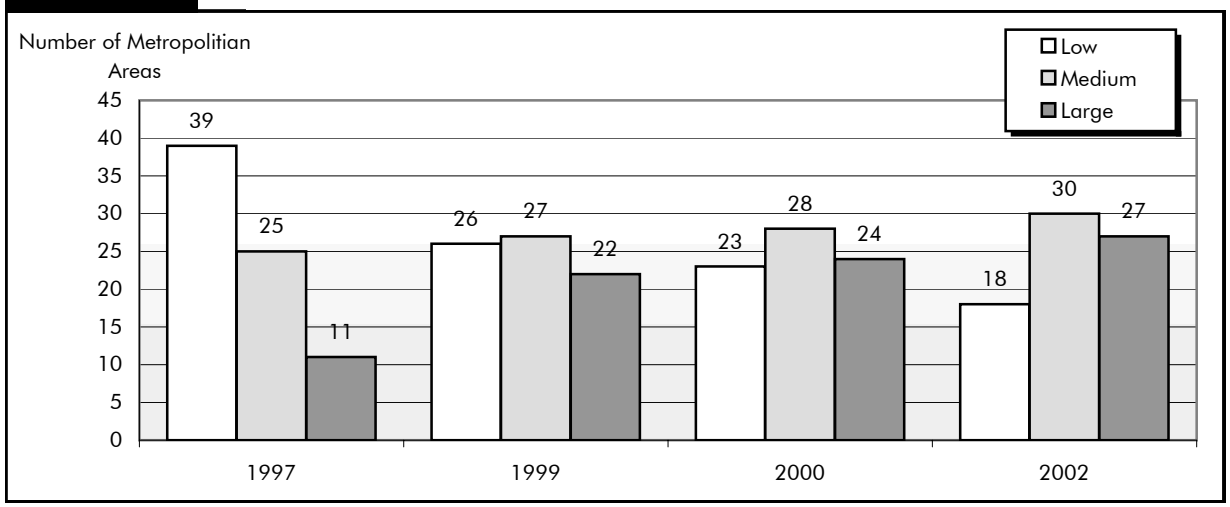
Exhibit 2-11 *Deployment of Intelligent Transportation Systems (ITS) in 78 Largest Metropolitan Areas, 1997, 1999, 2000, and 2002*



Source: "Tracking the Deployment of the Integrated Metropolitan Intelligent Transportation Systems Infrastructure in the USA: FY 2002 Results, April 2004."

Exhibit 2-12 shows the level of ITS deployment in 75 of the nation's largest metropolitan areas. Progress has been made in the number of cities with medium or high level ITS. The number of cities with high or medium level ITS has increased from 36 in 1997 to 57 in 2002.

Exhibit 2-12 *Integrated Metropolitan Deployment Progress*



Source: "Tracking the Deployment of the Integrated Metropolitan Intelligent Transportation Systems Infrastructure in the USA: FY 2002 Results, April 2004."

Bridge System Characteristics

Bridges by Owner

Exhibit 2-13 shows the number of highway bridges by owner from 1996 to 2002. State and local ownership includes highway agencies; park, forest, and reservation agencies; toll authorities; and other State or local agencies, respectively. The vast majority of State and local bridges are owned by highway agencies. Federal ownership includes a number of agencies, mostly from the Department of Interior and the Department of Defense. A small number (less than 1 percent) of bridges carrying public roadways are owned by other agencies, such as private entities and railroads. Ownership percentages have remained relatively constant over time, as shown in Exhibit 2-13.

Q. Is information on railroad bridge inspections included in the NBI?

A. Some bridges carrying highway traffic are owned by railroads. For instance, a public road that crosses railroad tracks may be owned by the railroad if built within the railroad right-of-way. Ownership in these cases depends on the agreements made between the political jurisdiction and the railroad. There are a small number of railroad-owned highway bridges in excess of 6 meters in total length in the inventory: 1,016 nationally. Bridges carrying railroads are not included in the database unless they also carry a public road or cross a public road where information of certain features, such as vertical or horizontal clearances, is required for management of the highway system.

A simple tabulation of the number of bridges by ownership does not take into account the traffic carried by the structure or the size of the structure. *Exhibit 2-14* compares the ownership percentages based on the actual number of bridges with percentages based on average daily traffic on bridges and bridge deck area, respectively. Bridges owned by State agencies carry significantly higher cumulative traffic volumes than bridges owned by local agencies. State-owned bridges also tend to have greater deck area than locally owned bridges.

Exhibit 2-13 *Bridges by Owner, 1996–2002*

	Number of Bridges by Year			
Owner	**1996**	**1998**	**2000**	**2002**
Federal	6,171	7,748	8,221	9,371
State	273,198	273,897	277,106	280,266
Local	299,078	298,222	298,889	299,354
Private/Railroad	2,378	2,278	2,299	1,502
Unknown/Unclassified	1,037	1,131	415	1,214
Total	**581,862**	**583,276**	**586,930**	**591,707**

Source: National Bridge Inventory.

Q. How do the bridge ownership percentages compare with the road ownership percentages?

A. The majority of bridges and roadways are owned by State and local agencies. The vast majority of roadways, however, are owned by local agencies. Bridge ownership is nearly equally divided between State ownership and local ownership. States tend to own larger, higher volume structures, such as those on Interstates and expressways. Localities own smaller structures on lower volume roadways, such as local roads and collectors.

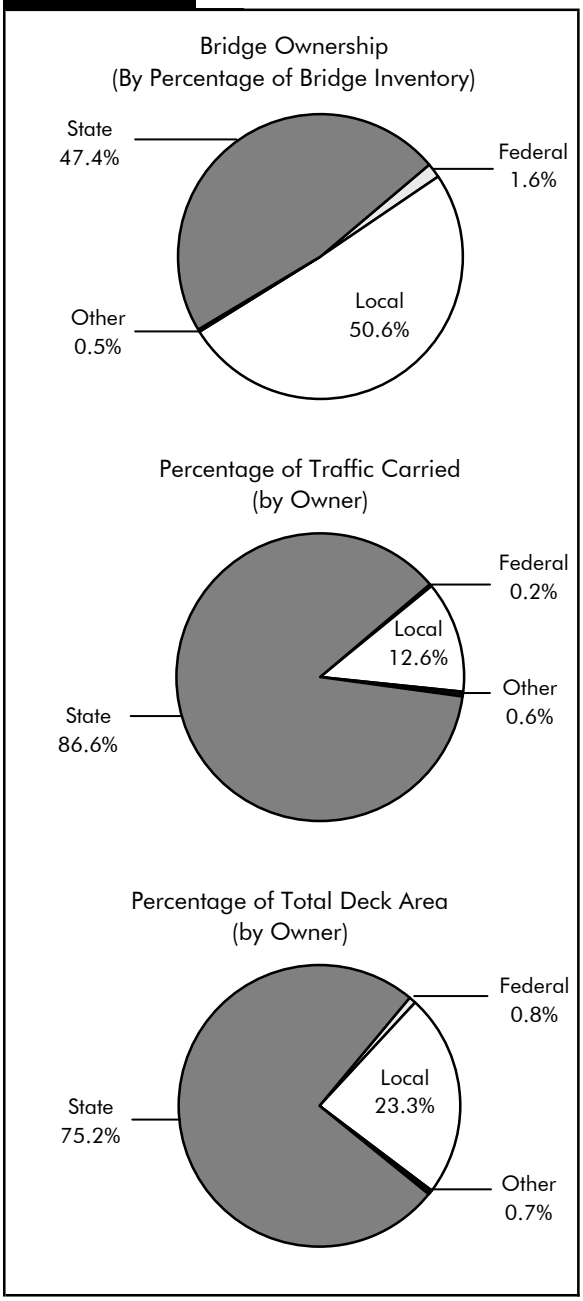
Q. If an agency owns a bridge, is it responsible for the maintenance and operation of the structure?

A. Bridge maintenance and operation is the responsibility of the owner of the structure. Interagency agreements may be formed, such as those between State highway agencies and localities. In these cases, a secondary agency (such as the State) performs maintenance and operation work under agreement. This, however, does not transfer ownership and therefore does not negate the responsibilities of the bridge owners for maintenance and operation in compliance with Federal and State requirements.

Bridges by Functional Classification

Highway functional classifications are maintained with the NBI according to the hierarchy used for highway systems previously shown. The number of bridges by functional classification is summarized and compared with previous years in *Exhibit 2-15.* Overall percentages of each functional classification tend to remain relatively constant over time, although bridges are functionally reclassified as urban boundaries change.

Exhibit 2-14 *Percent Bridge Inventory, Traffic, and Deck Area by Owner*



Source: National Bridge Inventory.

Exhibit 2-15 *Number of Bridges by Functional System, 1996–2002*

Functional Classification	1996	1998	2000	2002
Rural				
Interstate	28,638	27,530	27,797	27,316
Other Arterial	72,970	73,324	74,796	74,814
Collector	144,246	143,140	143,357	144,101
Local	211,059	210,670	209,415	209,722
Subtotal	456,913	454,664	455,365	455,953
Urban				
Interstate	26,596	27,480	27,882	27,929
Other Arterial	59,064	60,901	63,177	65,667
Collector	14,848	14,962	15,038	15,171
Local	24,441	24,962	25,684	26,609
Subtotal	124,949	128,305	131,781	135,376
Total	**581,862**	**582,969**	**587,146**	**591,329**

Source: National Bridge Inventory.

Exhibit 2-16 gives additional detail on bridges from the 2002 NBI dataset by cross tabulating the number of bridges by owner and functional classification. There are 378 structures (less than 0.1 percent) that do not have accurately coded functional classifications. These bridges are not included in the 2002 tabulation. Nearly all of the Interstate bridges are owned by State agencies (99.3 percent) with small numbers of Interstate bridges owned by other agencies, primarily in urban areas. Likewise, most of the bridges functionally classified as local (82.4 percent) are owned by cities, counties, townships, and other local agencies.

State agencies own the majority of bridges at the higher functional classifications and also own sizeable numbers of bridges across all functional classifications. Approximately 125,000 of the 280,000 State-owned bridges carry principal arterials including Interstates and other freeways and expressways. The remaining structures carry minor arterials, collectors, and local roadways. Of the nearly 300,000 locally owned bridges, the majority carry local roadways and collectors (93 percent). The majority of federal bridges (97 percent) are located in rural areas and carry either local or collector roadways (94 percent).

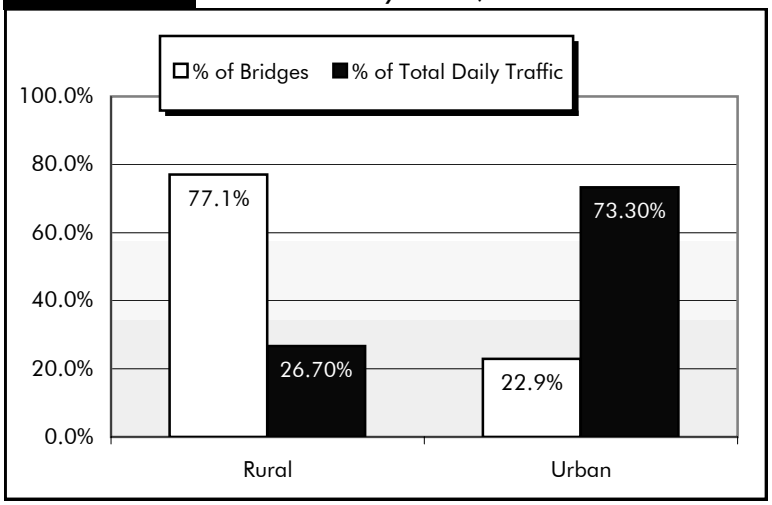
Exhibit 2-16 *Bridges by Functional Classification and Owner, 2002*

Functional Classification	State	Local	Federal	Private/ Railroad	Other/ Unclassified	All Owners
Rural						
Interstate	27,283	10	18	4	1	27,316
Other Principal Arterials	34,686	300	55	29	157	35,227
Minor Arterial	36,682	2,414	402	49	40	39,587
Major Collector	52,737	41,742	179	85	38	94,781
Minor Collector	16,602	31,423	1,178	89	28	49,320
Local	28,177	173,578	7,255	564	148	209,722
Rural Total	**196,167**	**249,467**	**9,087**	**820**	**412**	**455,953**
Urban						
Interstate	27,601	307	2	9	10	27,929
Other Freeway and Expressway	15,429	970	2	47	396	16,844
Other Principal Arterial	18,785	5,317	17	80	108	24,307
Minor Arterial	11,939	12,288	42	146	101	24,516
Collector	5,086	9,850	20	114	101	15,171
Local	4,956	21,096	195	282	80	26,609
Urban Total	**83,796**	**49,828**	**278**	**678**	**796**	**135,376**
Unclassified	303	59	6	4	6	378
TOTAL	**280,266**	**299,354**	**9,371**	**1,502**	**1,214**	**591,707**

Source: National Bridge Inventory.

Exhibit 2-17 presents a summary of bridges and traffic carried by rural/urban status. Of all structures, 77.1 percent are located in rural areas. Though only 22.9 percent of the bridges are located in urban areas, these structures carry three-quarters of all daily traffic.

Exhibit 2-17 *Rural and Urban Bridges by Number and Percent of Daily Traffic, 2002*



Source: National Bridge Inventory.

Transit System Characteristics

Transit Services, Jurisdiction, and Use

Prior to 1960, the Federal Government was not focused on public transit issues. But, by the end of the 1950s, it was becoming clear to all levels of government that developing and sustaining transit services was an important national, as well as local, concern. Studies undertaken by State and local governments in major cities, including Chicago, Philadelphia, San Francisco, and Washington, highlighted the need for creating or improving transit facilities and programs. Since the 1960s, the ownership and operation of most transit systems in the United States have been transferred from private to public hands. This transformation occurred with the large influx of Federal funding following the passage of the Urban Mass Transportation Act of 1964, which specified that Federal funds for transit were to be given to local or metropolitan-level public agencies, and not to private firms or State governments. The Act also required local governments to contribute local matching funds for the provision of transit services in order to receive Federal aid.

As local governments have come to understand the regional nature of transportation problems, metropolitan planning organizations have assumed more responsibility for formulating local transit policy. Regional planning allows local officials to consider the effects of the transportation system on other characteristics of the urban environment, including land use, the location and creation of employment, and accessibility, i.e., the ease with which local residents and visitors can reach locations for business, medical, educational, and recreational purposes. It also allows local decision makers to choose the best way to invest their scarce transportation resources, including choosing among modes.

Transit operations have increasingly become the subject of State initiatives in the form of financial support and performance oversight, as well as outright ownership and operation of services. Five states—Connecticut, Delaware, Maryland, New Jersey, and Rhode Island—own and operate transit systems. Ballot initiatives dedicating specific taxes to transit were passed in 10 States—Arizona, California, Colorado, Florida, Michigan, Nevada, Ohio, South Carolina, Utah, and Washington—between 2000 and 2002.

A transit provider can be an independent agency with either an elected or appointed Board of Governors. It may also be the unit of a regional transportation agency, or a State, county, or city government. Services may be provided directly or under contract. Transit services must be open to the general public, i.e., to anyone who pays the proscribed fare. They must also meet accessibility requirements, such as the Americans with Disabilities Act of 1990 (ADA).

In 2002, there were 610 providers of transit services in both large and small urbanized areas, compared with 614 in 2000. Of these 610 providers, 538 were public agencies. The remaining 72 providers were private providers under contract to public agencies, private brokerage systems, or agencies in special categories such as private entities providing dial-a-ride services. In 2000, the most recent year for which information is available, there were 1,215 operators serving rural areas. In spring 2004, it was estimated that there were 4,836 providers of special services to the elderly and disabled in both urban and rural areas.

Increases in population coupled with investment in transit infrastructure have led to transit ridership increases. The total number of miles traveled on transit, or passenger miles traveled (PMT), increased from 35.1 billion miles in 1980 to 45.9 billion miles in 2002. PMT growth was particularly strong in the latter half of the 1990s, increasing at an average annual rate of 3.5 percent between 1995 and 2000. By comparison PMT was virtually the same in 1995 as in 1990 and increased at a much more gradual pace (1.7 percent on average annually) between 1980 and 1990. The fast growth in transit use in the latter part of the 1990s most likely resulted from the strong economy and, in part, from the expansion of commuter benefits, including transit benefits and parking cash-out programs. The introduction of fares cards in New York City in 1997, which enabled transfers, and the introduction of volume discounts and unlimited-ride one-day, 7-day, and 30-day passes in New York City in 1999, also very likely contributed to ridership increases. Nationwide PMT increased in between 2000 and 2001, falling back to 2000 levels in 2002, reflecting a decrease in ridership in New York City as a result of the terrorist attacks on September 11, 2001.

Transit Fleet and Infrastructure

The Nation's transit system continues to grow. In 2002, urban transit systems operated 114,564 vehicles, of which 87,295 were in urbanized areas of more than 1 million people and 27,269 were in urbanized areas under 1 million. In 2000, the most recent year for which information is available and as reported in the last edition of this report, there were 19,185 rural vehicles, i.e., vehicles serving rural areas operated by agencies receiving FTA funds. FTA estimates that there are currently (2004) 37,720 special service vehicles, of which 16,219 were funded by FTA. (No estimate of special service vehicles is available for 2002.) In 2002, transit providers operated 10,722 miles of track and served 2,862 stations, compared with 10,572 miles of track and 2,825 stations in 2000. Between 2000 and 2002, the number of urban transit vehicles increased by 7.7 percent, track mileage grew by 1.4 percent, and the number of stations increased by 1.3 percent. There were also 769 maintenance facilities in urban areas, compared with 759 in 2000, an increase of 1.3 percent [*Exhibit 2-18*].

Q. What is demand response?

A. Demand response is a transit service composed of passenger cars, vans, or small buses dispatched directly in response to requests for service. Demand response vehicles do not operate over fixed routes or to fixed schedules except on a temporary basis to satisfy a special need. Typically, the vehicle may be dispatched to pick up several passengers at different locations before taking them to their respective destinations.

System Network (Urban Route Miles)

The number of the Nation's transit directional route miles is a measure of the coverage or the extensiveness of the U.S. transit system. Directional route miles are counted for vehicles traveling in a particular direction. They measure the distance covered by a transit route independent of the number of vehicles that serve that route. When routes overlap, the mileage is counted separately for each route. Routes may be along fixed guideways (as in the case of rail modes) or separated bus guideways, or they may share city streets with other vehicles (as with most bus routes).

In the United States in 2002, there were 235,304 transit directional route miles (route miles), of which 225,820 were provided by bus modes and 9,484 by rail modes. Total route miles increased at an average annual rate of 2.1 percent between 1993 and 2002 and 6.9 percent between 2000 and 2002.

Changes in total route miles are driven almost exclusively by changes in bus route miles, which, in 2002, accounted for 96 percent of total route mileage. The National Transit Database (NTD) reports that route

miles for buses increased rapidly between 2000 and 2002 at an average annual rate of 7.1 percent. Light rail route miles exhibited the most rapid growth between 1993 and 2002, at an average annual rate of 6.7 percent, and between 2000 and 2002, at an average annual rate of 7.2 percent. The rapid pace in growth of light rail route miles reflects new and extensions to existing New Starts rail systems that have become operational during this period. Route miles for remaining transit modes have also increased, although less rapidly. Commuter rail route miles increased at an average annual rate of 1.8 percent between 1993 and 2002, and trolleybus route miles by 1.6 percent. Heavy rail and ferryboat route miles each increased at an average annual rate of 0.9 percent over the same period. Route miles are not collected for demand response, vanpool, jitney, and publico services, since these transit modes do not travel along specific predetermined routes [*Exhibit 2-19*]. [Publico is a jitney service that operates in Puerto Rico. See Q & A on page 2-26.]

Q. Why are directional route miles higher for nonrail modes than they were in previous editions of this report?

A. Directional route miles for bus and ferryboat services performed under contract were not included in earlier editions of this report. These route miles are now included.

System Capacity

The Nation's transit system's capacity is measured with capacity-equivalent vehicle revenue miles (VRM). Capacity-equivalent VRM are a measure of the distance traveled by transit vehicles in revenue service, adjusted by the passenger-carrying capacity of each transit vehicle type, with the average passenger-carrying capacity of buses representing the baseline.

Exhibit 2-18 *Transit Active Fleet and Infrastructure, 2002*

	Areas Over 1 Million	Areas Under 1 Million[1]	Total
Vehicles			
Buses	49,159	19,259	68,418
Heavy Rail	10,946	0	10,946
Light Rail	1,373	84	1,457
Self-Propelled Commuter Rail	2,383	0	2,383
Commuter Rail Trailers	2,838	78	2,916
Commuter Rail Locomotives	624	68	692
Vans	13,602	6,165	19,767
Other (including Ferryboats)	6,370	1,615	7,985
Vehicle Subtotal	**87,295**	**27,269**	**114,564**
Rural Service Vehicles [2]	0	19,185	19,185
Special Service Vehicles [3]	10,107	27,613	37,720
Total Active Vehicles	**97,402**	**74,067**	**171,469**
Infrastructure			
Track Mileage			
Heavy Rail	2,179	0	2,179
Commuter Rail	7,070	283	7,353
Light Rail	1,052	61	1,114
Other Rail [4]	23	53	76
Total Track Mileage	**10,325**	**397**	**10,722**
Stations			
Heavy Rail	1,017	0	1,017
Commuter Rail	1,138	18	1,156
Light Rail	572	68	640
Other Rail [4]	36	13	49
Total Transit Rail Stations	**2,763**	**99**	**2,862**
Maintenance Facilities [5]			
Heavy Rail	53	0	53
Commuter Rail	62	0	62
Light Rail	27	5	32
Ferryboat	6	1	7
Buses	296	219	516
Demand Response	28	63	91
Other Rail [4]	3	5	8
Total Urban Maintenance Facilities	**476**	**293**	**769**
Rural Maintenance Facilities [2]		510	510
Total Maintenance Facilities	**476**	**803**	**1,279**

[1] Note that all numbers in this column refer to urbanized areas under 1 million except for rural vehicles, rural maintenance facilities, and special service vehicles. The numbers for rural vehicles and rural maintenance facilities comprise those that serve rural areas only. Special service vehicles comprise those that operate in urbanized areas under 1 million and in rural areas.

[2] Owned by operators receiving funding from FTA as directed by 49USC Section 5311. These funds are for transit services in areas with populations of less than 50,000. (Section 5311 Status of Rural Public Transportation 2000, CTAA, April 2001.)

[3] FTA, Fiscal Year Trends Report on the Use of Section 5310 Elderly and Persons with Disabilities Program Funds, 2002. FTA funded 16,219 of these vehicles.

[4] Includes Alaska Railroad which was not reported to the NTD in 2000.

[5] Includes owned and leased facilities; directly operated service only.

Source: National Transit Database.

Exhibit 2-19 *Transit Directional Route Miles, 1993–2002*

	1993	1995	1997	1999	2000	2002	Average Annual Rate of Change 2002/ 1993	2002/ 2000
Rail	**7,888**	**8,211**	**8,602**	**9,170**	**9,222**	**9,484**	**2.1%**	**1.4%**
Commuter Rail [1]	5,875	6,162	6,393	6,802	6,802	6,923	1.8%	0.9%
Heavy Rail	1,452	1,458	1,527	1,540	1,558	1,572	0.9%	0.5%
Light Rail	537	568	659	802	834	960	6.7%	7.2%
Other Rail [2]	24	24	24	27	29	30	2.5%	1.6%
Nonrail [3]	**187,215**	**187,757**	**185,164**	**195,984**	**196,858**	**225,820**	**2.1%**	**7.1%**
Bus	186,334	186,856	184,248	195,022	195,884	224,838	2.1%	7.1%
Ferryboat	476	490	496	533	505	513	0.9%	0.8%
Trolleybus	405	412	420	430	469	468	1.6%	-0.1%
Total	**195,102**	**195,968**	**193,766**	**205,154**	**206,080**	**235,304**	**2.1%**	**6.9%**
Percent Nonrail	96.0%	95.8%	95.6%	95.5%	95.5%	96.0%		

[1] Includes Alaska Rail.

[2] Automated guideway, inclined plane, cable car, and monorail.

[3] Excludes jitney, publico, and vanpool.

Source: National Transit Database.

VRM, unadjusted by passenger-carrying capacity, are reported in *Exhibit 2-20.* These numbers are of interest because they show the actual number of miles traveled by each mode in revenue service. Unadjusted VRM for each mode are multiplied by a capacity-equivalent factor in order to calculate capacity-equivalent VRM. Rail's share of total unadjusted transit VRM remained relatively constant between 1993 and 2002, ranging between 27 and 28 percent. As subsequent paragraphs will show, the share of VRM on rail modes, adjusted for capacity equivalency, are considerably higher than the share of VRM on rail modes unadjusted for capacity equivalency. The share of unadjusted VRM provided by bus services has declined from 61 percent in 1993 to 54 percent in 2002.

Exhibit 2-20 *Transit Unadjusted Vehicle Revenue Miles (VRM), 1993–2002*

	(Millions)					
	1993	1995	1997	1999	2000	2002
Rail	**737**	**775**	**811**	**849**	**880**	**925**
Commuter Rail [1]	203	218	230	243	248	259
Heavy Rail	505	522	540	561	578	603
Light Rail	27	34	40	42	51	60
Other Rail [2]	2	2	2	2	2	2
Nonrail	**1,855**	**1,957**	**2,042**	**2,257**	**2,322**	**2,502**
Bus	1,578	1,591	1,606	1,719	1,764	1,864
Demand Response	243	297	350	418	452	525
Ferryboat	2	2	2	2	2	3
Trolleybus	13	13	13	14	14	13
Vanpool	19	22	40	60	62	71
Other Nonrail [3]	0	31	31	44	28	26
Total	**2,592**	**2,732**	**2,853**	**3,106**	**3,202**	**3,427**
Percent Rail	28.4%	28.4%	28.4%	27.3%	27.5%	27.0%

[1] Includes Alaska Rail.

[2] Automated guideway, inclined plane, cable car, and monorail.

[3] Publico and jitney.

Source: National Transit Database.

The capacity-equivalent factors used in earlier reports and the resulting capacity-equivalent VRM have been revised. New capacity-equivalent factors are equal to the ratio of the average full-seating and full-standing capacities of vehicles in active revenue service for each transit mode to the average full-seating and full-standing capacity of all bus vehicles in active revenue service as reported by the NTD for each year from 2000 to 2002. For vehicles in service that prohibit standing, often the case with commuter rail, standing capacity is assumed to be 0. These revised capacity-equivalent factors are shown in *Exhibit 2-21.*

Exhibit 2-21 *Capacity-Equivalent Factors Mode, Full-Seating and -Standing Capacities Combined*

Base = Average Bus Capacity			
Automated Guideway	1.43	Jitney	0.57
Alaska Rail	0.40	Light Rail	2.52
Cable Car	0.87	**Bus**	**1.00**
Commuter Rail	2.33	Monorail	1.85
Demand Response	0.18	Publico	0.26
Ferryboat	12.05	Trolleybus	1.46
Heavy Rail	2.36	Vanpool	0.19
Inclined Plane	0.84		

Source: National Transit Database.

Capacity-equivalent VRM reported in *Exhibit 2-22* are based on the new capacity-equivalent factors. In 2002, all transit modes combined provided the equivalent of 4.2 billion miles of bus service loaded to full-seating and full-standing capacity. Slightly more than half of these capacity-equivalent VRM were provided by rail modes of service, and slightly less than half by nonrail modes. Total capacity-equivalent VRM increased at an average annual rate of 2.4 percent between 1993 and 2002 and 2.8 percent between 2000 and 2002. Between 1993 and 2002, capacity-equivalent VRM grew most rapidly for vanpool, at an average annual rate of 17.9 percent, although vanpool accounts for only a very small percentage of total transit services. Capacity-equivalent VRM for light rail also grew rapidly, at an average annual rate of 9.3 percent between 1993 and 2002 and 8.0 percent between 2000 and 2002, reflecting New Starts openings and extensions. Capacity-equivalent VRM for demand response also exhibited substantial growth, increasing

Exhibit 2-22 *Transit Urban Capacity-Equivalent Vehicle Revenue Miles, 1993–2002*

	(Millions)						Average Annual Rate of Change	
	1993	1995	1997	1999	2000	2002	2002/ 1993	2002/ 2000
Rail	**1,736**	**1,827**	**1,912**	**2,013**	**2,075**	**2,182**	**2.6%**	**2.6%**
Commuter Rail [1]	474	507	535	567	578	604	2.7%	2.2%
Heavy Rail	1,192	1,231	1,274	1,324	1,365	1,424	2.0%	2.2%
Light Rail	68	85	100	119	130	151	9.3%	8.0%
Other Rail [2]	2	2	3	3	3	3	4.9%	3.3%
Nonrail	**1,669**	**1,699**	**1,728**	**1,867**	**1,914**	**2,030**	**2.2%**	**3.0%**
Bus	1,578	1,591	1,606	1,719	1,764	1,864	1.9%	2.8%
Demand Response	44	54	63	75	81	95	8.9%	7.7%
Ferryboat	24	23	24	30	30	32	3.2%	4.1%
Trolleybus	19	19	20	20	20	19	0.2%	-2.3%
Vanpool	4	4	8	11	12	13	17.9%	7.0%
Other Nonrail [3]	0	8	8	11	7	7	-2.6%	-3.8%
Total	**3,405**	**3,526**	**3,640**	**3,880**	**3,989**	**4,213**	**2.4%**	**2.8%**
Percent Rail	51.0%	51.8%	52.5%	51.9%	52.0%	51.8%		

[1] Includes Alaska Rail.

[2] Automated guideway, inclined plane, cable car, and monorail.

[3] Jitney and publico. Capacity-equivalent VRM were 16.7 thousand in 1993.

Source: National Transit Database.

at an average annual rate of 8.9 percent between 1993 and 2002 and 7.7 percent between 2000 and 2002, as transit agencies continued to fulfill their responsibilities under the ADA. Capacity-equivalent VRM for bus, commuter rail, and heavy rail, which combined account for the bulk of transit services, increased more slowly between 1993 and 2002, at average annual rates of 1.9 percent, 2.7 percent, and 2.0 percent, respectively.

Q. What is a jitney service, and what is a publico service?

A. Jitney is composed of passenger cars or vans operating on fixed routes, with some minor deviations. Jitney services operate without a fixed schedule or stops and as warranted by demand. There is only one jitney service in the United States, which has been operating in Long Beach, California, since 1914. A newspaper reporter coined the name "jitney" because the service charged a jitney or five cents a ride. At that time, independent operators provided jitney services using a wide range of automobiles. In 1914, the first ordinance regulating jitney bus traffic was adopted.

Publico is the name of the jitney service that operates in San Juan, Puerto Rico. Publico is composed of passenger vans or small buses operating with fixed routes, but not fixed schedules. Publico vehicles are privately owned, unsubsidized, but regulated through a public service commission or state or local government. Vehicle capacities vary from eight to 30 or more passengers. Vehicles may be owned or leased by the operator.

Passenger Travel

As previously mentioned in the beginning of this chapter, PMT, or the total number of miles traveled by passengers in transit vehicles, measures the Nation's transit use. Percentage changes in PMT closely follow percentage changes in unlinked trips. *Exhibit 2-23* provides PMT for selected years between 1993 and 2002. PMT increased at an average annual rate of 2.7 percent between 1993 and 2002 and 0.9 percent between 2000 and 2002. PMT on all rail modes combined increased at an average annual rate of 3.6 percent between 1993 and 2002, more than double the 1.7 percent average annual growth rate on all nonrail modes combined. Starting from an extremely low level of ridership, PMT on vanpool grew the mostly rapidly between 1993 and 2002, at an average annual rate of 11.1 percent. PMT on vanpool remains a tiny fraction of the Nation's total. PMT on light rail also grew at a fast pace, at an average annual rate of 8.2 percent between 1993 and 2002, as new light rail systems and extensions were opened, but slowed to an average annual rate of 3.4 percent between 2000 and 2002. PMT on demand response systems also grew briskly at an average annual rate of 5.9 percent between 1993 and 2002. In addition to serving disabled persons, demand response services are effective at meeting ridership demand in sparsely populated areas where fixed route service does not make economic sense. PMT on commuter rail increased moderately at an average annual rate of 3.6 percent between 1993 and 2002, but more slowly at 0.5 percent between 2000 and 2002.

Q. When are vanpools considered to be transit service?

A. Vanpools that are operated, owned, or leased by a public entity are considered to be transit. They must comply with transit rules, including the ADA provisions and be open to the public.

Exhibit 2-23 *Transit Urban Passenger Miles, 1993–2002*

	(Millions)						Average Annual Rate of Change	
	1993	1995	1997	1999	2000	2002	2002/ 1993	2002/ 2000
Rail	**17,867**	**19,682**	**21,138**	**22,875**	**24,603**	**24,616**	**3.6%**	**0.0%**
Commuter Rail	6,912	8,244	8,037	8,764	9,400	9,500	3.6%	0.5%
Heavy Rail	10,231	10,559	12,056	12,902	13,844	13,663	3.3%	-0.7%
Light Rail	704	859	1,024	1,190	1,340	1,432	8.2%	3.4%
Other Rail [1]	20	21	21	19	20	20	-0.1%	0.1%
Nonrail	**18,354**	**18,288**	**19,042**	**20,404**	**20,498**	**21,328**	**1.7%**	**2.0%**
Bus	17,360	17,024	17,509	18,684	18,807	19,527	1.3%	1.9%
Demand Response	389	397	531	559	588	651	5.9%	5.3%
Ferryboat	240	243	254	295	298	301	2.5%	0.5%
Trolleybus	188	187	189	186	192	188	0.0%	-1.1%
Vanpool	177	185	310	413	407	455	11.1%	5.7%
Other Nonrail [2]	-	252	249	267	205	206	-2.8%	0.1%
Total	**36,220**	**37,971**	**40,180**	**43,279**	**45,101**	**45,944**	**2.7%**	**0.9%**
Percent Rail	49.3%	51.8%	52.6%	52.9%	54.6%	53.6%		

[1] Automated guideway, inclined plane, cable car, and monorail.

[2] Jitney and Publico. Ninety-eight percent or more are PMT on Publico. Average annual percentage change is between 1995 and 2002.

Source: National Transit Database.

While PMT on heavy rail also increased moderately at an average annual rate of 3.3 percent between 1993 and 2002, it declined by 0.7 percent on an average annual basis between 2000 and 2002, reflecting a decrease in ridership in New York City following the terrorist attacks on September 11, 2001. If heavy rail is excluded, PMT increased at an average annual rate of 1.6 percent between 2000 and 2002. (Note that PMT on heavy rail increased by 2.4 percent between 2000 and 2001.) Some heavy rail systems, however, had rapid increases in PMT over the 2000 to 2002 period. PMT on the Los Angeles County Metro increased at an average annual rate of 48 percent between 2000 and 2002, reflecting the opening of the North Hollywood extension in 2000. PMT on the Washington Metro Green line increased at an average annual rate of 21 percent between 2000 and 2002, reflecting the opening of a 6.5-mile extension in January 2001. Both projects were supported by FTA's New Starts capital investment program.

Q. What affects transit ridership?

A. Transit ridership is measured by PMT or unlinked passenger trips. PMT for each system by mode are calculated as the number of unlinked trips multiplied by an estimate of average trip length. Transit ridership is higher in densely developed areas with more extensive and frequent service and lower in sprawling developments where the service is less extensive and frequent.

The largest increases in transit ridership generally come from expanding transit services into areas where there is significant latent ridership demand. Investments that enhance riders' comfort levels, such as benches and shelters at transit stops and walkways with safer pedestrian access, have been found to promote ridership. Riders are attracted by more frequent service, reduced vehicle crowding and, in some cases, changes in service routes. However, bus ridership may be adversely affected by road congestion. Special programs targeting students, human service agency clientele, and tourists can also build ridership as can the reduction of parking subsidies and provision of transit checks.

A statistical analysis by FTA found a positive relationship between changes in employment and transit use, and provided an indication that the level of employment was the most important factor affecting transit use. Research in this area is ongoing, and additional linkages are under examination.

Vehicle Occupancy

Unadjusted for Vehicle Capacities

Vehicle occupancy, or the average number of passengers that a transit vehicle carries, measures the level of utilization of the transit infrastructure and compares the level of transit use with the level of transit service. *Exhibit 2-24* shows average unadjusted vehicle occupancies for transit modes on a mode-by-mode basis. Since the average carrying capacities of the vehicles in each mode are different, differences in these occupancy rates reflect the size of the vehicle and not the extent to which the vehicle is being utilized. Automated guideway, inclined plane, cable car, and monorail have been grouped together as other rail and jitney and Publico as other nonrail.

Average unadjusted vehicle occupancies are not calculated for all rail modes combined or for all nonrail modes combined because the passenger-carrying capacities of vehicles within each mode are not comparable. In 2002, on average a commuter rail vehicle carried 37 passengers, a heavy rail vehicle carried 23 passengers, and a bus carried 11 passengers.

Exhibit 2-24 *Unadjusted Vehicle Occupancy*
Passengers per Transit Vehicle, 1993–2002

	1993	1995	1997	1999	2000	2002
Rail						
Commuter Rail [1]	34.0	37.9	35.0	36.0	37.9	36.7
Heavy Rail	20.2	20.2	22.3	23.0	23.9	22.6
Light Rail	26.1	25.3	25.7	28.1	26.1	23.9
Other Rail [2]	11.8	10.7	9.5	8.7	8.4	8.0
Nonrail						
Bus	11.0	10.7	10.9	10.9	10.7	10.5
Demand Response	1.6	1.3	1.5	1.3	1.3	1.2
Ferryboat	118.3	125.3	126.2	119.0	120.1	112.1
Trolleybus	14.4	14.2	14.1	13.7	13.8	14.1
Vanpool	9.2	8.3	7.7	6.9	6.6	6.4
Other Nonrail [3]	0.0	8.0	8.1	6.1	7.3	7.9

[1] Includes Alaska Rail

[2] Automated guideway, inclined plane, cable car, and monorail.

[3] Jitney and publico.

Source: National Transit Database.

Adjusted for Vehicle Capacities

To provide a better indication of actual capacity utilization, vehicle occupancies can be adjusted to reflect differences in vehicle-carrying capacities among modes by taking the ratio of PMT to capacity-equivalent VRM. This enables the comparison of vehicle occupancy levels across modes. Adjusted vehicle occupancy levels are based on capacity-equivalent VRM and provide the average number of people that a mode would carry if it were operating vehicles equal to the size of the average U.S. bus. Note that these adjusted capacity-equivalent occupancy levels differ from what were reported in previous editions of this report because they have been revised to reflect the revisions in capacity-equivalent factors and capacity-equivalent VRM discussed earlier in this chapter under "System Capacity" on page 2-24. The slight downward adjustment in the estimates of capacity-adjusted vehicle occupancy levels for rail vehicles has resulted from a slight increase in the estimated average adjusted capacity of these vehicles [*Exhibit 2-25*].

Exhibit 2-25 *Adjusted Vehicle Occupancy[1] Passengers per Capacity-Equivalent Public Transit Vehicle Mile, 1993–2002*

	1993	1995	1997	1999	2000	2002
Rail	**10.3**	**10.8**	**11.1**	**11.4**	**11.9**	**11.3**
Commuter Rail [2]	14.6	16.2	15.0	15.5	16.3	15.7
Heavy Rail	8.6	8.6	9.5	9.7	10.1	9.6
Light Rail	10.4	10.0	10.2	10.0	10.3	9.5
Other Rail [3]	9.2	8.3	7.3	6.6	6.3	5.9
Nonrail	**11.0**	**10.8**	**11.0**	**10.9**	**10.7**	**10.5**
Bus	11.0	10.7	10.9	10.9	10.7	10.5
Demand Response	8.9	7.4	8.4	7.4	7.2	6.9
Ferry Boat	9.8	10.4	10.5	9.9	10.0	9.3
Trolley Bus	9.9	9.7	9.7	9.4	9.4	9.7
Vanpool	48.6	43.6	40.7	36.3	34.7	33.9
Other Nonrail [4]	-	30.8	31.0	23.3	28.0	30.3
Total	**10.6**	**10.8**	**11.0**	**11.2**	**11.3**	**10.9**

[1] Recalculated since the last report based on new capacity-equivalent factors in Exhibit 2-21.

[2] Includes Alaska Rail.

[3] Automated guideway, inclined plane, cable car, and monorail.

[4] Jitney and publico.

Source: National Transit Database.

Between 1993 and 2002, adjusted vehicle occupancy levels remained relatively constant. The adjusted vehicle occupancy for all modes combined was 10.9 passengers in 2002, compared with a high of 11.3 passengers in 2000 and a low of 10.6 passengers in 1993. These occupancy levels show that on average transit vehicles were operating at a capacity equivalent to 11 persons per bus.

Adjusted vehicle occupancy levels for all rail modes combined was 11.3 passengers in 2002, and ranged from a high of 15.7 passengers for commuter rail to a low of 5.9 passengers for other rail modes (automated guideway, inclined plane, cable car, and monorail). The higher adjusted vehicle occupancy level for commuter rail reflects the fact that many commuter rail systems do not allow passengers to stand so that the capacity of commuter rail vehicles is lower in relationship to the capacity of bus vehicles than if standing on all commuter rail systems were allowed. Adjusted vehicle occupancy levels for heavy rail and light rail in 2002 were 9.6 passengers and 9.5 passengers, respectively, slightly lower than in the immediately preceding years.

In 2002, adjusted vehicle occupancy for all nonrail vehicles combined was 10.5 passengers. Vanpool had the highest adjusted vehicle occupancy level in 2002 (33.9 passengers) and demand response systems the lowest (6.9 passengers). Transit agencies are not mandated to provide vanpool services. These services are likely to be made available only when higher occupancy levels are assured. Alternatively, demand response vehicles are generally used either to provide services to the elderly or disabled or to persons in sparsely settled areas. These riders are more likely to have unique trip requirements, making it difficult to operate demand response services at higher occupancy rates. Occupancy levels for both vanpool and demand response services were lower in 2002 than in the preceding years, particularly in comparison with 1993. Bus occupancy remained almost constant between 1993 and 2002, although marginally lower in 2002 than in earlier years—10.5 passengers in 2002, compared with 10.7 passengers in 2000 and 11.0 passengers in 1993.

Rural Transit Systems (Section 5311 Providers)

Rural operators are defined as those providing service outside urbanized areas or to areas with populations of less than 50,000. The information on rural systems presented here is taken from *Status of Rural Public Transportation 2000*, April 2001, prepared for FTA. These data have not been updated since the last edition of this report. They are based on a 1997 comprehensive listing of U.S. rural transit operators compiled by the Institute for Economic and Social Measurement from State Departments of Transportation, and on surveys conducted by the Community Transportation Association of America (CTAA) for FTA in 1999 and 2000. A total of 108 rural transit operators responded to the 1999 survey and a total of 50 operators responded to the 2000 survey. Although survey respondents provided information covering different 12-month periods, with commencement dates ranging from June 1997 to June 1999, the data were combined for purposes of analysis.

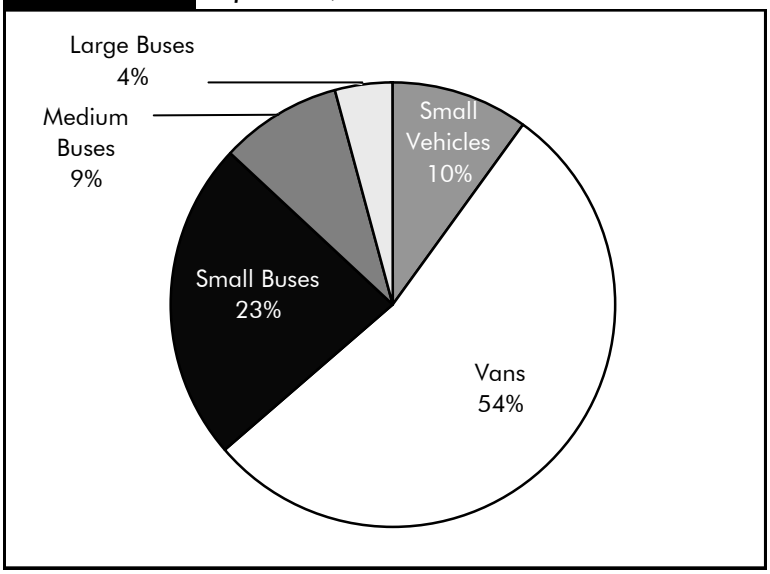
Q. How are transit route miles and ridership located in rural areas, but served by an agency that also services an urbanized area, classified?

A. Transit agencies that operate in both urbanized and rural areas report data on their operations for both areas combined.

In 1997, there were 1,215 rural transit operators. While the number of rural transit providers had remained relatively constant since 1994, the year of the previous survey, fleet sizes expanded dramatically between 1994 and the most recent surveys undertaken in 1999 and 2000. The 150 providers that responded to a question on fleet size had an average fleet size of 17.5 vehicles, compared with an average fleet size of 11 vehicles in 1994, an increase of almost 50 percent. Correspondingly, the median fleet size in the most recent survey increased to 9 vehicles, compared with a median size of 6 vehicles in 1994. Total rural fleet size was estimated to have increased from 12,223 vehicles in 1994 to 19,185 vehicles in the most recent study.

The majority of rural transit operators' vehicles are vans (8 to 15 passengers) and small buses (16 to 24 passengers). According to the most recent survey, vans accounted for 54 percent of the rural fleet and small buses for 23 percent. Small vehicles (fewer than 8 passengers) accounted for 10 percent, medium buses (25 to 35 passengers) for 9 percent, and large buses (more than 35 passengers) for 4 percent [*Exhibit 2-26*].

Exhibit 2-26 *Fleet Composition of Rural Transit Operators, 1997–2000*



Source: Community Transportation Association of America, Status of Rural Public Transportation 2000, April 2001.

Rural systems provide both traditional fixed route and demand response services. About half of all rural transit providers offer various forms of route- or point-deviation services. About 5 percent of rural systems also coordinate van and carpooling programs. Sixty percent of the rural fleet in the most recent survey was lift- or ramp-equipped, compared with 40 percent in 1994.

Transit System Characteristics for Americans with Disabilities and the Elderly (Section 5310 Providers)

The ADA is intended to ensure that persons with disabilities have access to the same facilities and services as other Americans, including transit vehicles and facilities. Since its passage in 1990, transit operators have been working toward upgrading their regular vehicle fleets to accommodate the disabled. The ADA requires that public entities that purchase or lease new vehicles for transit purposes make "demonstrated good faith efforts to purchase or lease" vehicles that are accessible to persons with disabilities. Department of Transportation (DOT) regulations provide minimum guidelines and accessibility standards for buses, vans, and heavy, light, and commuter rail vehicles. Commuter rail transportation systems are required to have at least one accessible car per train and all new cars must be accessible. The ADA deems it discriminatory for a public entity providing a fixed route transit service to provide services to disabled individuals that are inferior to those provided to nondisabled individuals. Paratransit must be used to provide persons with disabilities with a level of service comparable to the level provided to nondisabled persons who use a fixed route system.

The percentage of transit vehicles that are ADA compliant is increasing. In 2002, 79 percent of all transit vehicles included in the NTD were ADA compliant, compared with 73 percent in 2000 [*Exhibit 2-27*].

In addition to the services provided by urban transit operators, there were about 483,673 private and nonprofit agencies that received FTA Section 5310 funding for the provision of "special" transit services to persons with disabilities and the elderly. A recent survey by the University of Montana, which concluded in the spring of 2004, found that there were 4,836 private and nonprofit agencies that received FTA Section 5310 funding, compared with 3,673 agencies reported by a CTAA survey in 1993. These providers include religious organizations, senior citizen centers, rehabilitation centers, the American Red Cross, nursing homes, community action centers, sheltered workshops, and coordinated human services transportation providers. In FY 2002, approximately 62 percent of these special service providers were in rural areas and 38 percent were in urbanized areas.

Exhibit 2-27 *Urban Transit Operators' ADA Vehicle Fleets, 2002*

	Active Vehicles	ADA Compliant Vehicles	ADA as a Percentage of Active Vehicles
Rail			
Automated Guideway	49	49	100%
Commuter Rail [1]	5,991	2,923	49%
Heavy Rail	10,946	10,377	95%
Inclined Plane	8	6	75%
Light Rail	1,457	997	68%
Monorail	8	8	100%
Total Rail	**18,459**	**14,360**	**78%**
Nonrail			
Cable Car	40	-	0%
Demand Response	24,926	17,347	70%
Ferryboat	110	94	85%
Motor Bus	62,331	58,359	94%
Publico	2,845	-	0%
Trolleybus	656	345	53%
Vanpool	5,191	102	2%
Total Nonrail	**96,099**	**76,247**	**79%**
Total	**114,558**	**90,607**	**79%**

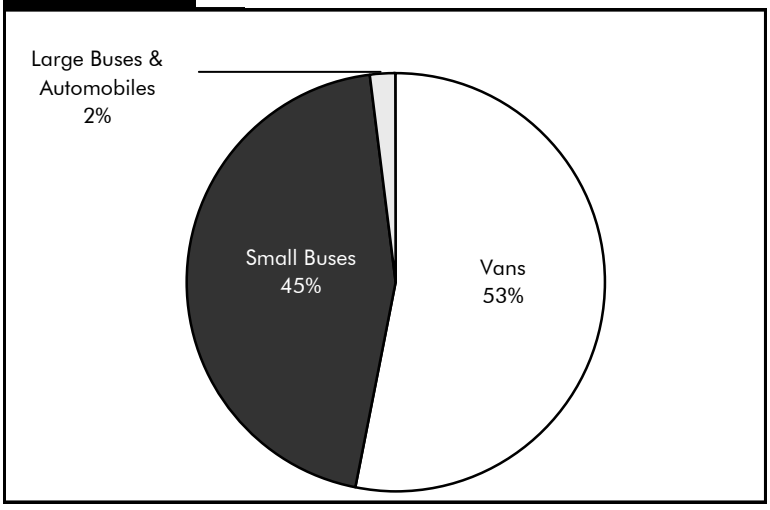
[1] Includes Alaska Rail.

Source: National Transit Database.

In 2002, there were estimated to be 37,720 special service vehicles of which 16,219 were funded by FTA [Exhibit 2-18]. Data collected by FTA show that vehicle size of special service transportation providers grew between 1993 and FY 2002. By FY 2002, only 53 percent of the special service vehicles purchased were vans (compared with 75 percent in 1993), 45 percent were buses less than 30 feet in length (compared with 13 percent in 1993), and 2 percent were large buses and automobiles (compared with 12 percent in 1993)

[*Exhibit 2-28*]. Approximately 76 percent of the vehicles purchased in FY 2002 were wheelchair accessible, about the same as in the previous few years.

Exhibit 2-28 *Composition of Special Service Vehicles, FY 2002*



Source: FTA, Fiscal Year 2002 Trends Report on the Use of Section 5310 Elderly and Persons with Disabilities Program Fund.

In 2002, 77 percent (or 5,216) of total transit stations were ADA compliant and 23 percent (or 1,555) were not. The ADA requires that new transit facilities and alterations to existing facilities be accessible to the disabled.

Under the ADA, FTA was given responsibility for identifying "key rail stations" and facilitating the accessibility of these stations to disabled persons by July 26, 1993. Although ADA legislation required all key stations to be accessible by July 26, 1993, the DOT ADA regulation at 49 CFR 37.47(c)(2) permitted the FTA Administrator to grant an extension up to July 26, 2020, for stations requiring extraordinarily expensive structural modifications to bring them into compliance. Currently, there are 138 stations under FTA-approved time extensions.

Key rail stations are identified on the basis of the following criteria:

- The number of passengers boarding at the key station exceeds the average number of passengers boarding on the rail system as a whole by at least 15 percent.
- The station is a major point where passengers shift to other transit modes.
- The station is at the end of a rail line, unless it is close to another accessible station.
- The station serves a "major" center of activities, including employment or government centers, institutions of higher education, and major health facilities.

The number of key rail stations that are ADA accessible is increasing. In 2002, 423 of 585 key rail stations, or 77 percent, were ADA accessible. By comparison, in 2000, 52 of 689 key rail stations were accessible; in 1997, 29 of 689 key rail stations were accessible; and, in 1994, 13 of 700 key rail stations were accessible. The number of key rail stations has decreased over the years as a result of rail station closings, renovations, relocations, and merges. There were also instances where initially some stations were double counted because the location of the station connected two different lines in a system.